

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

September 29, 2006

OK

TO: Internal File

THRU: Priscilla Burton, Environmental Scientist/Soils, Team Lead *PWB by an*

FROM: Jerriann Ernsten, Ph.D., Environmental Specialist/Biologist *He*

RE: Refuse Pile Expansion, Canyon Fuel Company, LLC., Dugout Canyon Mine,
C/007/039, Task ID #2550

SUMMARY:

The Permittee submitted a plan in February 2004 for the Dugout refuse pile site, a response in January 2006 to our review and fall 2005 field visit, and a response in July 2005 to our review in March 2006. This refuse pile amendment includes a proposal to enlarge the waste rock storage pile.

This memo provides discussion of the review of the Biology and Land use Chapters in the Dugout Refuse Pile Expansion Amendment (RA). For the refuse pile borrow pit area, the Permittee commits to the following discipline-related commitments:

- The Permittee will provide cultural resource descriptions and map of the proposed borrow pit area (for the refuse pile) at least one year prior to disturbance of the pit area. The Permittee will submit all documents marked Confidential and allow adequate time for the Division to review and coordinate with the SHPO.
- The Permittee will provide vegetation descriptions of the proposed borrow pit area (for the refuse pile) at least one year prior to disturbance of the pit area. These descriptions will include collecting the same baseline performance parameters as for any other surface disturbance project. The descriptions will also include assigning a reference area and providing production estimates from the NRCS. The Permittee will include the borrow pit and reference areas on Figs. 3-1 and 3-1E.

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- The Permittee will provide wildlife occurrence and habitat descriptions of the proposed borrow pit area (for the refuse pile) at least one year prior to disturbance of the pit area. These descriptions will include collecting the same baseline parameters required to design protection and enhancement plan as for any other surface disturbance project. The descriptions will also include updating the wildlife maps to include the borrow pit area; listed threatened, endangered, or sensitive species; baseline surveys that meet species-specific survey protocols. During topsoil removal, the Permittee will adhere to all wildlife exclusionary periods and buffer zones, unless DWR issues an official exemption.

TECHNICAL ANALYSIS:

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

The Mine and Reclamation Plan (MRP) meets R645-301-121.100 and R645-301-121.200 for the biology chapter and archeology section because the information is generally current, clear, and concise.

The MRP includes many different volumes, including the following “stand-alone” documents (as of January 2005):

- “Dugout Canon Mine – Leach Field Addendum A-1” (LFA, March 2001)
- “Refuse Pile Amendment – Dugout Canyon Mine” (RPA, January 2003)
- “Methane Degasification Amendment” (MDA, 2003/2004).

The “stand-alone” volumes provide exclusive information, supporting documents, and maps for each proposed project.

Findings:

Information provided in the plan meets the minimum Permit Application Format and Contents in General Contents requirements of the regulations.

REPORTING OF TECHNICAL DATA

Regulatory Reference: 30 CFR 777.13; R645-301-130.

Analysis:

The MRP meets R645-301-130 because qualified professionals conducted or directed the surveys and analysis for the supporting biological and archeological resource-related documents.

Findings:

Information provided in the plan meets the minimum Reporting of Technical Data in General Contents requirements of the regulations.

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

Analysis:

The MRP meets the requirements of R645-301-411 pertaining to historic resources. The MRP includes numerous evaluations of historic resources that focus on the permit area (Confidential Binder). It also includes narratives and maps that describe or illustrate locations of historic resources within or adjacent the permit area. There is proof of coordination efforts and clearances from the SHPO. The Division, in consultation with SHPO, supports a finding of "no effect" to historic resources within or adjacent to the facilities area.

The Confidential Binder includes a survey of the refuse pile site (Senco-Phenix 1998; RA Attachment 4-1). The survey results showed that there were no historic resources included in or eligible for inclusion in the NRHP.

The Permittee will provide cultural resource descriptions and map of the proposed borrow pit area (for the refuse pile) at least one year prior to disturbance of the pit area. The Permittee will submit all documents marked Confidential and allow adequate time for the Division to review and coordinate with the SHPO.

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There are no cemeteries, public parks, or units of the National System of Trails or the Wild and Scenic Rivers System located within or adjacent to the permit area.

Findings:

Information provided in the plan meets the minimum Environmental -Historic and Archeological Resource Information requirements of the regulations.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

The MRP meets the requirements of R645-301-321 because there is adequate discussion of plant communities observed within the permit area. The MRP contains many supporting documents on vegetation for the permit area. The baseline vegetation information is adequate for assessing reclamation potential and success as well as productivity values for the surface area affected by mining operations.

The Refuse Pile volume contains the vegetation study (Attachment 3-1), maps (Figs. 3-1 and 3-2), and photos taken in 1998 of disturbance to the refuse site. Figure 3-1 illustrates the vegetation communities within or adjacent to the refuse site. The Permittee compiled this figure from 1988 photographs and soil surveys. Figure 3-2 delineates areas within the refuse site that had been previously disturbed from gravel extraction operations in 1998. These operations impacted the site by leaving minimal cover that most likely promoted the growth of introduced and weedy species.

The Permittee will provide vegetation descriptions of the proposed borrow pit area (for the refuse pile) at least one year prior to disturbance of the pit area. These descriptions will include collecting the same baseline performance parameters as for any other surface disturbance project. The descriptions will also include assigning a reference area and providing production estimates from the NRCS. The Permittee will include the borrow pit and reference areas on Figs. 3-1 and 3-1E.

Findings:

Information provided in the plan meets the minimum Environmental - Vegetation Resource Information requirements of the regulations.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

Analysis:

GENERAL WILDLIFE

The MRP meets the requirements of R645-301-322 because there is adequate narrative, supporting documentation, or maps on wildlife within or adjacent to the project area.

The Permittee will provide wildlife occurrence and habitat descriptions of the proposed borrow pit area (for the refuse pile) at least one year prior to disturbance of the pit area. These descriptions will include collecting the same baseline parameters required to design protection and enhancement plan as for any other surface disturbance project. The descriptions will also include updating the wildlife maps to include the borrow pit area; listed threatened, endangered, or sensitive species; baseline surveys that meet species-specific survey protocols. During topsoil removal, the Permittee will adhere to all wildlife exclusionary periods and buffer zones, unless DWR issues an official exemption.

Ungulates

The MRP (Vol. 3, App. 3-2) provides general information on many wildlife species including ungulates. There is a descriptive deer and elk habitat map (Plate 3-2) in the Confidential Binder, but this map does not include the refuse project site. The MRP (RA Vol. Sec. 322.200), however, states that the refuse pile site is within critical winter range for deer and high value winter range for elk. The MRP also states that the local area supports yearlong pronghorn range in the salt desert shrub community of the lower elevation ranges along the Clark Valley Road.

Raptors

The Permittee will conduct annual raptor surveys to obtain baseline data prior to mining disturbances including subsidence of cliff habitat (Vol. 1, Sec. 322, p. 3-13). The Permittee will also conduct follow up surveys within one year if nests were observed during the baseline surveys and if operations resulted in subsidence. Annual reports will provide the results of the over-flight surveys.

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Raptor survey results and flyover maps describe nests for a diversity of raptor species within or adjacent to the permit area (Confidential Binder: Chap. 3 Data; Methane Degas Vol., Attachment 3-3; Refuse Pile Vol., RA Attachment 3-2).

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL/PLANT SPECIES

The MRP meets the requirements of R645-301-322 because there is adequate discussion, supporting documentation, and maps on TES species that could occur within or adjacent to the permit area. All supporting documents on TES plant and animal species show that there were no observations of threatened or endangered species.

TES Plants

All supporting documents on TES species show that there were no observations of any threatened or endangered species within the permit area. The results of the George Cook (1998) survey included observations of the endangered cactus *Sclerocactus wrightiae* (Wright fishhook cactus). The 1998 vegetation survey of the refuse site or the 2002 vegetation survey of the correlating reference area did not indicate presence of this cactus. Furthermore, Ben Franklin (DWR) verified that the area does not support habitat for this cactus.

TES Animals

TES supporting documents show that the permit area supports habitat for the following TES animals: Mexican Spotted Owl (MSO), black-footed ferret, bald eagle, and peregrine falcon. The MSO survey showed no MSO responses within a half-mile radius around the testing area (G1-G6 degas wells). There have been no confirmed sightings of black-footed ferrets within Carbon County during 1995, 1996, and the first quarter of 1997 (DWR, Section 322.200). The peregrine falcon has been observed in several recent surveys of the Carbon County area, but none reported within the permit area during the flyover surveys.

The Division does not consider that additional TES surveys, including MSO ground-truthing or calling surveys, are necessary for the refuse pile expansion because the area does not support TES habitat or has been previously disturbed.

Findings:

Information provided in the plan meets the minimum Environmental - Fish and Wildlife Resource Information requirements of the regulations.

LAND-USE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.22; R645-301-411.

Analysis:

The premining land use for the refuse site was rangeland and wildlife habitat. Some of the area was also used for gravel extraction operations. BLM uses adjacent land for cattle grazing from November 16 to June 15 for 835 AUM's. Currently, the Dugout Canyon Road runs adjacent to the site (section 411.130).

Findings:

Information provided in the plan meets the minimum Environmental - Land-Use Resource Information requirements of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

[Sheila Mo5]

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Archeological Site Maps [Sheila Mo6]

The MRP meets the requirements of R645-301-411.141 because there are archeological maps showing known resource locations within the permit area. These maps are in the Confidential Binder.

Cultural Resource Maps

The MRP meets the requirements of R645-301-411.141 because there are cultural maps showing known resource locations within the permit area. These maps are in the Confidential Binder.

Vegetation Reference Area Maps [Sheila Mo8]

The MRP meets the requirements of R645-301-323.100 because vegetation maps illustrate community types within the disturbed and reference areas as well as illustrate the locations of all the reference areas (Fig. 3-1E). This figure is located in the MRP as well as in

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the three stand-alone volumes. Updates to this figure that is coordinated with any one of the “stand-alone projects” must include updates in all the volumes.

The Volume - Refuse Pile Amendment also provides a map that shows the reference area for the refuse pile project (Fig. 3-1). The Permittee will update this map as well as Fig. 3-1E to reflect the borrow pit area prior to disturbance of the area.

OPERATION PLAN

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES [Sheila Mo9]

Regulatory Reference: 30 CFR 784.17; R645-301-411.

Analysis:

There are no known public parks or historic places within the permit area.

Findings:

Information provided in the plan meets the minimum Operations - Protection of Public Parks and Historic Places requirements of the regulations.

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

The MRP meets the requirements of R645-301-333, R645-301-342, or R645-301-358 because it provides information on TES and discussion concerning protection and enhancement during construction and reclamation phases. The Permittee, in consultation with the Division and DWR, will provide additional foraging habitat to guide wildlife away from mine operations if warranted.

Protection and Enhancement Plan

The MRP provides protection and enhancement measures including minimizing disturbance areas, conducting yearly raptor surveys, educating mine personnel on TES and

historic resource protection measures, constructing power lines according to Electric Transmission System's guidelines, installing protective fencing, avoiding blasting and massive earthwork from one hour before sunrise and sunset to two hours after sunrise and sunset from April through June, providing northern saw-whet owl nesting boxes, and reclaiming currently disturbed sites as well as disturbed sites from previous non-coal operations.

Ungulates

Initial construction for the refuse pile (and borrow pit area) expansion project and reclamation will not occur during ungulate exclusionary periods. The Permittee will reclaim the site using a seed mix compatible for ungulates.

Raptors

The Permittee will conduct annual fly-over raptor surveys to obtain baseline data prior to mining disturbances including subsidence of cliff habitat (Vol. 1, Sec. 322, pg. 3-13). The Permittee will also conduct follow up surveys within one year if nests were observed during the baseline surveys and if operations resulted in subsidence. The Permittee commits to conduct ground surveys for goshawks and northern saw-whet owls in with suitable habitat and areas planned for mining facilities. The refuse pile expansion project area does not include cliff or forested habitat. The Permittee will evaluate the borrow pit area prior to disturbance of the area.

Endangered and Threatened Species

Colorado River Fish

Adverse effects of mining on water quantity to the Colorado River drainages do affect four Colorado River endangered fish species (Colorado pikeminnow, humpback chub, bonytail chub, and razorback sucker). The USFWS considers water depletion to the Colorado River drainage as a potential jeopardy to these endangered fish. Water users may be required to mitigate if the overall water consumption is greater than 100 acre-feet per year.

The Division will not require the Permittee to resubmit water consumption calculations for the refuse pile expansion project because it will not include changes to the permit or surface disturbance areas.

Bald and Golden Eagles [Sheila Mo12]

There are many raptor nests within the Dugout properties including golden eagles. There are no known bald eagle nests. The Permittee will conduct annual raptor surveys to obtain baseline data prior to mining disturbances including subsidence of cliff habitat.

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Wetlands and Habitats of Unusually High Value for Fish and Wildlife [Sheila Mo13]

Robert Thompson, a Forest Service botanist, states that there are no known wetlands within the main facilities area.

The permit area includes critical winter range for deer and high value winter range for elk. The area also supports yearlong pronghorn range in the salt desert shrub community of the lower elevation ranges along the Clark Valley Road.

The Division considers that reclamation of the refuse pile site will enhance the area for wildlife uses. This is because the site had never been reclaimed following gravel extraction operations and primarily contained weedy species and low diversity.

Findings:

Information provided in the plan meets the minimum Operations - Fish and Wildlife Information requirements of the regulations.

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

The MRP meets the requirements of R645-301-330, R645-301-331, and R645-301-332 because the Permittee will disturb the smallest area as possible for facilities, apply interim or contemporaneous reclamation when applicable, and mitigate for subsidence-related impacts.

The Permittee will stabilize disturbance by grading, seeding, and mulching (Vol. 1, Sec. 341). The Permittee will use an interim seed mix (Sec. 341) on the topsoil stockpile and other areas requiring stabilization prior to final reclamation.

Findings:

Information provided in the plan meets the minimum Operations - Vegetation requirements of the regulations.

RECLAMATION PLAN

GENERAL REQUIREMENTS [Sheila Mo15]

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

There are discussions throughout the MRP on ripping, gouging, incorporating hay during gouging, or mulching. Areas recommended for fertilizer application will receive fertilizer by cyclone spreader, hydroseeder, or other equipment. The reclamation plan does not include irrigation. The Division does not anticipate the necessity to irrigate as long as the Permittee uses water-harvesting methods, such as gouging.

Findings:

Information provided in the plan meets the minimum Reclamation - General Requirements of the regulations.

POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

Analysis:

The MRP states that the postmining land uses will be livestock and wildlife grazing.

The surface owner is the same as the Permittee.

Findings:

Information provided in the plan meets the minimum Reclamation - Postmining Land Uses requirements of the regulations.

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PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

Analysis:

The MRP meets the requirements of R645-301-342 and R645-301-358 because the Permittee provides adequate enhancement and protection measures for fish, wildlife, and habitat during the reclamation or postmine phases. The Permittee will adhere to the regulations aimed to protect TES, eagles, and raptors from mining impacts (Refer to R645-301-358).

The Permittee states that because the refuse pile site was an unimproved disturbed area from gravel operations, that final reclamation will enhance the area to support the PMLU. These improvements will provide foraging and nesting habitat for wildlife.

Findings:

Information provided in the plan meets the minimum Reclamation - Protection of Fish, Wildlife, and Related Environmental Values requirements of the regulations.

CONTEMPORANEOUS RECLAMATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.100; R645-301-352, -301-553, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

General[Sheila Mo18]

The Permittee plans to reclaim all disturbed areas as contemporaneously as possible within the constraints of seasonal weather.

Findings:

Information provided in the plan meets the minimum Reclamation - Contemporaneous Reclamation requirements of the regulations.

REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

Revegetation: General Requirements

The MRP meets the requirements of R645-301-330, R645-301-331, and R645-301-332 because the Permittee provides an adequate reclamation plan or discussion of how reclamation measures will meet the performance standards.

The final seed mixtures (Sec. 341.200) include species observed in existing and similar communities. The Division considers that replanting community-dominant species is most important, but typically allowing pinyon and juniper to invade naturally.

The Permittee will follow the same reclamation procedures as described in the MRP for the proposed borrow pit area (for the refuse pile).

Revegetation: Timing

Figure 5-1 shows the general reclamation timetable. The earthwork and revegetation will occur nearly simultaneously until completion. The schedules for planting are during normal planting seasons. Traditionally, seeding is conducted in the fall with planting conducted in the fall or spring. Recent experience at another mine has shown that transplanting in the fall can be very successful.

Revegetation: Mulching and Other Soil Stabilizing Practices

The final reclamation plan includes extreme roughening, mulching with certified noxious weed free hay (1 ton per acre), then planting with seeds and transplants.

Revegetation: Standards For Success

The Permittee will follow the sampling requirements and analysis identified in the Division's "Vegetation Information And Monitoring Guidelines" (Vol. 1, Sec. 356). The Permittee will conduct yearly qualitative vegetation evaluations as well as conduct quantitative vegetation surveys throughout the 10-year responsibility period. The Permittee plans to use reference areas and *range sites* for the standards of success.

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The Permittee will use husbandry practices approved by the Division as needed.

Findings:

Information provided in the plan meets the minimum Reclamation - Revegetation requirements of the regulations.

RECOMMENDATIONS:

Approve the amendment.

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